

WE CLAIM

1. An image processing apparatus for applying effects to a stored image, the apparatus comprising
an optical reader;
a feed mechanism for feeding a planar element on which a printed, two-dimensional pattern having a certain resolution is carried, to the reader, the reader having a sensor with a resolution capacity of at least twice the resolution of the two-dimensional pattern and being configured to generate program data represented by the two-dimensional pattern in an external format, the data itself representing an image processing program;
a reader interface that is connected to the reader to receive the program data from the reader, the reader interface being configured to transform the program data to an internal format suitable for processing; and
a processor that is connected to both the reader and the reader interface to control operation of the reader and the reader interface and to apply the image processing program to the stored image to generate an output image with desired effects.
2. An image processing apparatus as claimed in claim 1, in which the reader has a resolution capacity of at least three times the resolution of the two-dimensional pattern.
3. An image processing apparatus as claimed in claim 1, in which the reader interface is configured to detect an area on the planar element on which the two-dimensional pattern is carried, to detect a bit pattern of the two-dimensional pattern and to write the bit pattern as a byte pattern.
4. An image processing apparatus as claimed in claim 3, in which the reader interface is configured to descramble and XOR the byte pattern.
5. An image processing apparatus as claimed in claim 4, in which the reader interface is configured to decode the byte pattern.
6. An image processing apparatus as claimed in claim 1, which includes a data storage device that is operatively connected to the reader and the processor so that the program, in its internal format, can be written to and stored in the data storage device.
7. An image processing apparatus as claimed in claim 6, in which the processor includes a VLIW processor that is connected to the reader interface via a FIFO buffer so that the reader interface can write data from the reader to the FIFO buffer and the VLIW processor can process and store data received from the FIFO buffer.
8. A camera which comprises
a housing;

an image sensor positioned on the housing for sensing a viewed image and generating pixel data representing the image;

an optical reader positioned on the housing;

a feed mechanism positioned on the housing for feeding a planar element on which a printed, two-dimensional pattern having a certain resolution is carried, to the reader, the reader having a sensor with a resolution capacity of at least twice the resolution of the two-dimensional pattern and being configured to generate program data represented by the two-dimensional pattern in an external format, the data itself representing an image processing program;

a central processor which comprises

an image sensor interface that is connected to the image sensor to receive pixel data from the image sensor so that the pixel data can be transformed and written to a data storage device;

a reader interface that is connected to the reader to receive the program data from the reader, the reader interface being configured to transform the program data to an internal format suitable for processing; and

a processing assembly that is configured to control operation of the image sensor, the image sensor interface, the reader and the reader interface and to apply the image processing program to the stored, transformed pixel data to generate an output image with desired effects.